## BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF HAWAII

In the Matter of

DOCKET NO. 2008-0273

PUBLIC UTILITIES COMMISSION

Instituting a Proceeding to Investigate the Implementation Of Feed–in Tariffs.

BLUE PLANET FOUNDATION'S RESPONSE TO THE HECO COMPANIES' INFORMATION REQUESTS FILED ON MARCH 4, 2009 AND TO THE DEPARTMENT OF BUSINESS,

• ECONOMIC DEVELOPMENT, AND TOURISM'S INFORMATION REQUESTS FILED ON MARCH 4, 2009

## AND

## **CERTIFICATE OF SERVICE**

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Attorney for Blue Planet Foundation

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Blue Planet Foundation ("Blue Planet"), by and through its attorneys Schlack Ito Lockwood Piper & Elkind, hereby submits its responses to the HECO Companies' Information Requests filed on March 4, 2009 ("HECO IRs") and the Department of Business, Economic Development, and Tourism's Information Requests filed on March 4, 2009 ("DBEDT IRs").

As a preliminary matter, Blue Planet must interpose a general objection to the HECO IRs and DBEDT IRs to the extent they are overbroad, vague, ambiguous, duplicative, and/or unduly burdensome. Without waiving this objection, the following responses are made in a good faith effort to supply as much information as is presently known, but are not intended to prejudice Blue Planet in relation to further discovery, disclosure, research or analysis.

<sup>&</sup>lt;sup>1</sup> Hawaiian Electric Company, Inc.; Maui Electric Company, Limited; and Hawaii Electric Light Company, Inc.

## I. RESPONSES TO HECO COMPANIES' IRS

#### HECO/Blue Planet-IR-1

Do you agree that in addition to achieving a greater level of renewable energy for the State, reliability, power quality and ratepayer impacts are important considerations that must be addressed as a part of any feed-in tariff (FIT) design? If not, please discuss why not.

## RESPONSE:

## "Reliability" and "Power Quality"

With regard to allegations concerning "reliability" and "power quality," *id.*, Blue Planet submits that this question conflates purely technical concerns with the Energy Agreement's<sup>2</sup> overriding economic and energy policy objectives<sup>3</sup> in a manner that puts the cart before the horse.

As a preliminary matter, at this time Blue Planet is not prepared to concede to the scope, extent or validity of the HECO Companies' allegations in this proceeding concerning current or near-term technical limitations as to the integration of renewable resources onto the utilities' electricity grids ("grid integration"). It is possible that further scrutiny of the HECO Companies' grid integration allegations in this proceeding may reveal different conclusions. Blue Planet is not aware of any insurmountable limitations, on a purely technical level, on the integration of renewable energy onto island grids. As will be the case upon adoption of the feedin tariff ("FIT"), it is suggested that the HECO Companies carry the burden of proof with regard to establishing alleged grid integration limitations in this proceeding. See D. Hinrichs, Feed-in Tariff Case Studies: A White Paper in Support of The Hawaii Clean Energy Initiative

<sup>&</sup>lt;sup>2</sup> "Energy Agreement Among the State of Hawaii, Division of Consumer Advocacy of the Department of Commerce and Consumer Affairs, and the Hawaiian Electric Companies" dated Oct. 20, 2008 ("Energy Agreement").

<sup>&</sup>lt;sup>3</sup> See Blue Planet Foundation's Information Requests To Hawaiian Electric Company, Inc., Maui Electric Company, Limited, Hawaii Electric Light Company, Inc. and the Division of Consumer Advocacy, State of Hawaii Department of Commerce and Consumer Affairs filed Mar. 4, 2009 at 3.

("Hinrichs") at 7 (FIT switches the "burden of proof" from the renewable energy generator to the utility with regard to connection to the grid).

Second, assuming the grid integration allegations are valid, FIT design must properly give priority to economic and policy objectives. Grid integration concerns are necessarily of limited relevance in designing an FIT. They should not drive the design process or take priority over economic and energy policy objectives which are the basic focus of an FIT. The consultant report submitted by the HECO Companies and Consumer Advocate<sup>4</sup> in support of their Joint Proposal, for example, defines a feed-in tariff as "a fixed price contract for renewable electricity from eligible generators." KEMA, Inc., "HECO Feed-in Tariff Program Plan" (Dec. 2008) ("KEMA Report") at 8. The Energy Agreement similarly describes an FIT as "[a] set of standardized, published purchased power rates, including terms and conditions, which the utility will pay for each type of renewable energy resource based on project size fed to the grid." Id. at 3. The goal of an FIT is "to encourage the development of certain types of resources by creating a more bankable revenue stream for the developer" and to "encourage project development." Feed-In Tariffs: Best Design Focusing Hawaii's Investigation (National Regulatory Research Institute, December 2008) ("Scoping Paper") at 1. An FIT "focuses on the financial needs of a typical project." *Id.* at 5. Indeed, the Commission's entire 29-page Scoping Paper appears to make only one reference grid integration, underscoring its general lack of importance in FIT design. Scoping Paper at 28.

Third, even if grid integration is considered in FIT design in this proceeding, it should be considered primarily in a manner that is consistent with the grids as described and contemplated by the Energy Agreement, rather than the current grids. The Energy Agreement

<sup>4</sup> State of Hawaii Division of Consumer Advocacy of the Department of Commerce and Consumer Affairs.

<sup>&</sup>lt;sup>5</sup> "Joint Proposal on Feed-in Tariffs of the HECO Companies and Consumer Advocate" dated Dec. 23, 2008 ("Joint Proposal").

contains numerous commitments by the parties to maintain and develop grids which integrate renewable energy generation in a manner consistent with the Energy Agreement's overriding policy objectives. *See, e.g.,* Energy Agreement at "Wind Power for Hawaii" (HECO Companies "are committed to integrating the maximum attainable amount of wind energy on their systems"), "The Technology of Inter-Island Renewables" (discussing modifications to transmission grids), "Distributed Generation (DG) and Distributed Energy Storage" (review of implementation of Rule 14.H tariffs and "significant investment" in smart grid technologies and changes to grid operations to accept higher levels of distributed generation), "Investment in the Infrastructure" (parties "specifically reject deferred maintenance" and agree additional investments in transmission, distribution and generation may be necessary), "The Smart Grid" (smart grid is "critical component" of Hawaii's energy future to improve integration of intermittent renewables).

The policy objectives these commitments support include moving "decisively and irreversibly away from imported fossil fuel for electricity and transportation and towards indigenously produced renewable energy and an ethic of energy efficiency," implementing FITs "as a method for accelerating the acquisition of renewable energy[,]" and committing to the goal of "70 percent clean, renewable energy for electricity and transportation by 2030[.]" *Id.* at 17-18 (emphasis added). Grid integration should not be relied upon as a basis for taking action inconsistent with these overriding objectives.

Finally, the Proposed Feed-In Tariff ("Proposed FIT") submitted by Blue Planet in conjunction with its initial Statement of Position filed on February 25, 2009 acknowledges the HECO Companies' right to require that any renewable energy generation developed pursuant to an FIT meet their technical interconnection requirements before the system is interconnected.

This fact underscores the false choice implied by this Information Request. The FIT should be designed to implement the Energy Agreement's economic and energy policy goals, regardless of subordinate allegations concerning grid integration.

Indeed, a robust and properly-designed FIT may transform alleged grid integration concerns into a source of economic opportunity. As the KEMA Report notes, such an FIT may result in Hawaii being "well positioned to export innovative grid integration strategies as other states and countries reach higher renewables penetration levels in the future." *Id.* at 3 (emphasis added).

## "Ratepayer impacts"

With regard to alleged "ratepayer impacts," this Information Request appears to assume that an FIT may be designed in such a manner as to cause ratepayers to incur higher costs than they would incur in the absence of the FIT ("unacceptable cost to ratepayers"). As with the HECO Companies' grid integration allegations, at this time Blue Planet is not prepared to concede to the validity of any allegations concerning an unacceptable cost to ratepayers. It is possible that further scrutiny of the HECO Companies' allegations may reveal different conclusions.

It is axiomatic that under an FIT renewable energy generators are paid a "premium rate" that is designed to generate a reasonable profit. Hinrichs at 7. As noted in the Scoping Paper, policymakers use FITs to encourage resource development "by compensating developers in excess of a market-based avoided cost." *Id.* at 5. This "premium rate" is "shared equitably by all grid customers." *Id.* The sharing of this premium rate by all grid customers may not properly be construed as an unacceptable cost to ratepayers resulting from the FIT.

Although theoretically an FIT rate may be set in a manner that results in an unacceptable cost to ratepayers, relevant experience with Germany's FIT law suggests the Proposed FIT is unlikely to do so. The cumulative additional net cost for the German FIT program has been estimated at approximately \$573 per person over twenty years. M. Maedl, *The German FIT for Renewable Energy – A Bargain!* (April 14, 2008). Thus, FIT design should properly give priority to the Energy Agreement's economic and policy objectives over suggestions that an FIT may result in an unacceptable cost to ratepayers.

The unacceptable cost of failing to rapidly implement the Energy Agreement's overriding policy objectives, however, is well known and perhaps best captured in the parties' proclamation that the "[t]he very future of our land, our economy and our quality of life is at risk if we do not make this move [toward renewable energy] and we do so for the future of Hawaii and of the generations to come." *Id.* (emphasis added).

#### **HECO/Blue Planet-IR-2**

Do you agree that the HECO, MECO and HELCO systems have different technical and reliability considerations? If not, please discuss why not.

#### RESPONSE:

Yes. Please see Response to HECO/Blue Planet-IR-1, above.

## **HECO/Blue Planet-IR-3**

Do you agree that due to the existing and/or anticipated levels of intermittent renewable resources on each island system, that there may be technical and/or operational constraints upon the amount of additional intermittent renewable energy that each island system can absorb? If not, please discuss why not.

#### RESPONSE:

Please see Response to HECO/Blue Planet-IR-1, above. The Proposed FIT acknowledges the right of the HECO Companies to require that any renewable energy generation

<sup>&</sup>lt;sup>6</sup> Available at http://www.renewableenergyworld.com/rea/news/article/2008/04/the-german-fit-for-renewableenergy-a-bargain-52156.

developed pursuant to an FIT meet their technical interconnection requirements before the system is interconnected.

#### HECO/Blue Planet-IR-4

How does your FIT proposal insure that reliability and power quality on each island electric system are maintained?

RESPONSE:

Please see Response to HECO/Blue Planet-IR-1, above. The Proposed FIT acknowledges the right of the HECO Companies to require that any renewable energy generation developed pursuant to an FIT meet their technical interconnection requirements before the system is interconnected.

## **HECO/Blue Planet-IR-5**

What specific data, evaluations, studies or analyses did you rely upon as a part of any conclusion that your FIT proposal insures reliability on each island system? Please provide that data, evaluations, studies and/or analyses to the extent they are available.

#### RESPONSE:

Please see Response to HECO/Blue Planet-IR-1, above. The Proposed FIT acknowledges the right of the HECO Companies to require that any renewable energy generation developed pursuant to an FIT meet their technical interconnection requirements before the system is interconnected.

## HECO/Blue Planet-IR-6

As variable generation is presently having an adverse impact on a system's reliability, how would your FIT proposal mitigate any further adverse impacts?

## RESPONSE:

Please see Response to HECO/Blue Planet-IR-1, above. The Proposed FIT acknowledges the right of the HECO Companies to require that any renewable energy generation

developed pursuant to an FIT meet their technical interconnection requirements before the system is interconnected.

#### HECO/Blue Planet-IR-7

Do you agree that your FIT proposal could result in increases in the rates paid by utility ratepayers? If so, what do you view as an acceptable level of increase for each of the utility system's ratepayers? What do you base that opinion on? Please provide any evaluations or analyses or studies used to support this opinion.

#### RESPONSE:

Please see Response to HECO/Blue Planet-IR-1, above. The Proposed FIT may increase or decrease rates paid by utility ratepayers. An acceptable rate increase or decrease is one that implements the Energy Agreement's overriding economic and energy policy objectives.

#### **HECO/Blue Planet-IR-8**

How does your FIT proposal insure that ratepayers within each of the three utility service territories do not receive significant rate increases?

## RESPONSE:

Please see Response to HECO/Blue Planet-IR-1, above. The Proposed FIT may increase or decrease rates paid by utility ratepayers. An acceptable rate increase or decrease is one that implements the Energy Agreement's overriding economic and energy policy objectives.

#### HECO/Blue Planet-IR-9

What specific data, evaluations, studies or analyses did you rely upon as a part of any conclusion that your FIT proposal insures that ratepayers within each of the three utility service territories do not receive significant rate increases? Please provide that data, evaluations, studies and/or analyses to the extent they are available.

#### RESPONSE:

Please see Response to HECO/Blue Planet-IR-1, above. The Proposed FIT may increase or decrease rates paid by utility ratepayers. An acceptable rate increase or decrease is one that implements the Energy Agreement's overriding economic and energy policy objectives.

Do you agree that competitive bidding can provide benefits to ratepayers? If so, how does your proposal insure that ratepayers receive the benefits that competitive bidding can provide?

#### RESPONSE:

The Proposed FIT ensures that ratepayers receive any benefits of the Competitive Bidding Framework<sup>7</sup> for certain renewable energy projects over 20 MW in size. Any benefits of the Competitive Bidding Framework for projects under 20 MW in size are outweighed by its cost with regard to preventing or delaying the rapid achievement of the Energy Agreement's overriding economic and energy policy goals. Since its adoption in 2006, the Competitive Bidding Framework has not resulted in increased renewable energy use in Hawaii in a manner that can reasonably be characterized as "rapid" or at a rate or scale consistent with the Energy Agreement objectives.

By contrast, it is well established that the potential benefits of an FIT include "[r]apid renewable energy market growth," and that FITs "can drive renewable energy development more rapidly than other policy types[.]" KEMA Report at 1, 2 (emphasis added). The German FIT law, after which the Proposed FIT is modeled, "triggered rapid and sustained renewable energy growth in Germany." *Id.* at 56. A similar FIT law in Spain resulted in the installation of 3,522 MW of wind energy in 2007 (a European record) and Spain's photovoltaic market grew by over 300%. *Id.* at 58. As the KEMA Report affirms, FIT payments "can rapidly grow renewable energy markets and achieve ambitious goals." *Id.* at 60 (emphasis added). Blue Planet is unaware of any empirical evidence in support of a similar claim for the Competitive Bidding Framework.

<sup>&</sup>lt;sup>7</sup> See Docket No. 03-0372, Decision and Order No. 23121 (Dec. 11, 2006).

Please explain why a feed in tariff should be applied to larger resources, rather than competitively bid to assure ratepayers the lowest prices for significant blocks of renewable energy?

RESPONSE:

Please see response to HECO/Blue Planet-IR-10, above.

## HECO/Blue Planet-IR-12

Do you agree that if a Renewable Energy Generating Facility is unable to meet the technical requirements set forth in the utilities' rules relating to interconnection with the utility's electric system, that Renewable Energy Generating Facility should not be interconnected with the utility's electric system? If not, please discuss why not.

#### RESPONSE:

Please see Response to HECO/Blue Planet-IR-1, above. The Proposed FIT acknowledges the right of the HECO Companies to require that any renewable energy generation developed pursuant to an FIT meet their technical interconnection requirements before the system is interconnected.

### **HECO/Blue Planet-IR-13**

Do you agree that, as an electric system must remain in balance, if there is a greater amount of energy being generated in relation to load being served that generation must be reduced or curtailed to achieve system balance (assuming that load cannot be increased)? If not, please describe how the system balance can otherwise be achieved.

## RESPONSE:

The Proposed FIT acknowledges the HECO Companies' right to curtail generation under conditions such as those cited in Section 5 (Continuity of Service), Section 6 (Personnel and System Safety) and Section 7 (Prevention of Interference) of the Straw Tariff.8

<sup>&</sup>lt;sup>8</sup> On January 15, 2009, HECO distributed draft versions of its proposed Schedule FIT Tariff, Schedule FIT Agreement (Appendix I), Schedule FIT Overview (Appendix II), and Schedule FIT Program Overview (Appendix III) to the intervenor parties in "straw format" ("Straw Tariff"). E-mail from M. Chun (HECO) to Intervenor Parties dated Jan. 15, 2009.

Please explain how your proposal to require the utility to take all renewable energy generated by a FIT resource regardless of system need assures system balance and stability?

## RESPONSE:

The Proposed FIT acknowledges the HECO Companies' right to curtail generation under conditions such as those cited in Section 5 (Continuity of Service), Section 6 (Personnel and System Safety) and Section 7 (Prevention of Interference) of the Straw Tariff.

The Proposed FIT requires the utilities to pay for all renewable generation. This right to payment held by the renewable energy generator follows from its right to access the grid. As previously noted, a "key provision" of an FIT is that "the utility is obliged to connect [renewable energy] power plants to their grid at any connection point that is technically and economically suitable[.]" Hinrichs at 7; *see also id.* at 24 (noting that "guaranteed interconnection" and a "mandatory purchase requirement" are two of the three main design elements of a May 2008 proposed national FIT law); World Futures Council, *Feed-in Tariff Design Guide* (grid access and interconnection is one of three "essential elements" of an FIT).

The Proposed FIT, however, also gives the utility the right to negotiate with the renewable energy generator to modify the utility's obligations to take, purchase and pay for all renewable energy generated and delivered to the utility. The generator has the right, but no obligation, to enter into such a contract with the utility.

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<sup>&</sup>lt;sup>9</sup> Available at http://onlinepact.org/features.html.

Is it your position that FIT resources may not be curtailed under any circumstance? If there are circumstances under which a FIT resource may be curtailed, please explain in detail how that curtailment would be accomplished. Please explain in detail how existing renewable projects fit into any curtailment order and the basis for assigning a lower curtailment priority to existing renewable resources.

## RESPONSE:

Please see response to HECO/Blue Planet-IR-13 and HECO/Blue Planet-IR-14, above.

#### **HECO/Blue Planet-IR-16**

Please provide any evaluations, studies or analyses to support the following in your FIT proposal: (1) the inclusion of each renewable resource type; (2) the viability of each renewable resource type for each island system; (3) the project size demarcations for each renewable resource type; (4) the viability of each project size for each island system; and (5) the basis for a different or separate rate for each size demarcation (if applicable). This should include any information or evidence that you may have on the general or specific plans of any renewable resource developer to develop renewable resources of this type, and including the anticipated size of the project, on any island system within the next one, three and five years.

## RESPONSE:

The Proposed FIT is modeled after the German FIT law. The inclusion of each renewable resource type, the project size demarcations for each renewable resource type, and the basis for a different or separate rate for each size demarcation are supported by the following evaluations, studies and analyses showing the success of the same or similar resource types, project size demarcations and rates under the German FIT:

- German Federal Environment Ministry, Development of Renewable
   Energy Sources in Germany in 2007 (December 15, 2008)<sup>10</sup>
- World Future Council, Feed-In Tariffs Boosting Energy for our Future

  (June 2007)<sup>11</sup>

<sup>&</sup>lt;sup>10</sup> Available at http://www.bmu.de/files/pdfs/allgemein/application/pdf/ee\_zahlen\_2007\_en\_update.pdf.

- European Photovoltaic Industry Association, Supporting Solar
   Photovoltaic Electricity: An Argument for Feed-in Tariffs (2008)<sup>12</sup>
- European Photovoltaic Industry Association, European PV Association's
   Position Paper On A Feed-In Tariff For Photovoltaic Solar Electricity
   (2005)<sup>13</sup>
- European Photovoltaic Industry Association, Overview of European PV support schemes (Dec. 2008)<sup>14</sup>
- Paul Gipe, Renewable Energy Policy Mechanisms (Feb. 2006)<sup>15</sup>

The viability of each renewable resource type for each island and the viability of each project size for each island system are supported by the following evaluations, studies and analyses:

- Douglas Hinrichs, Feed-in Tariff Case Studies: A White Paper in Support of the Hawaii Clean Energy Initiative (Sentech, Inc. Sept. 2008)
- Global Energy Concepts LLC, A Catalog of Potential Sites for Renewable
   Energy in Hawaii (Department of Business Economic Development and
   Tourism, December 2006)<sup>16</sup>
- Global Energy Concepts LLC, Select Hawaii Renewable Energy Project
   Cost and Performance Estimates, 2004 (Department of Business
   Economic development and Tourism 2004)<sup>17</sup>

<sup>&</sup>lt;sup>11</sup> Available at http://www.hermannscheer.de/en/images/stories/pdf/WFC Feed-in Tariffs jun07.pdf.

<sup>&</sup>lt;sup>12</sup> Available at http://www.epia.org/fileadmin/EPIA\_docs/documents/An\_Argument\_for\_Feed-in\_Tariffs.pdf.

Available at http://www.wind-works.org/FeedLaws/EuropeFeedInTariffEPIA.pdf.

<sup>&</sup>lt;sup>14</sup> Available at http://www.epia.org/fileadmin/EPIA\_docs/documents/20081215\_EPIA\_EU\_support\_schemes\_overview-PUBLIC.pdf

<sup>15</sup> Available at http://www.wind-works.org/FeedLaws/RenewableEnergyPolicyMechanismsbyPaulGipe.pdf

<sup>&</sup>lt;sup>16</sup> Available at http://hawaii.gov/dbedt/info/energy/publications/cpsre07.pdf

<sup>&</sup>lt;sup>17</sup> Available at http://hawaii.gov/dbedt/info/energy/publications/shrep04.pdf

Please describe the methodology and rationale used to determine the proposed twenty (20) year terms in your FIT proposal for each technology. Please provide any evaluations, studies or analyses to support the proposed 20 years terms for each technology listed.

## RESPONSE:

The proposed twenty year terms in the Proposed FIT are modeled primarily after the twenty year terms of the German FIT law.

### **HECO/Blue Planet-IR-18**

Please provide the bases for the proposed penetration limits for intermittent renewable energy sources. Please provide any evaluations, studies or analyses to support the proposed penetration limits, including in particular any evaluations, studies or analyses regarding maintenance of system reliability at the proposed penetration limits.

## RESPONSE:

Island-wide grid penetration limits for intermittent renewable energy sources are proposed to avoid requiring the utility and ratepayers to pay for renewable energy from intermittent sources if such sources do not displace generation from imported fuels due to the need to maintain such generation for purposes of system reliability.

A proposed aggregate island-wide penetration limit of 25% of peak demand for wind energy is based on studies<sup>18</sup> showing that the additional operating costs imposed on the system to maintain system reliability are moderate (from \$3/MWh to \$5/MWh) at wind capacity penetrations ranging up to 29%.

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<sup>&</sup>lt;sup>18</sup> See B. Parsons, M. Milligan, J.C. Smith, E. DeMeo, B. Oakleaf, K. Wolf, M. Schuerger, R. Zavadil, M. Ahlstrom and D. Yen Nakafuji, "Grid Impacts of Wind Power Variability: Recent Assessments from a Variety of Utilities in the United States," National Renewable Energy Laboratory Conference Paper NREL/CP-500-39955 (July 2006) http://www.uwig.org/Ewec06gridpaper.pdf; J.C. Smith, B. Parsons, T. Acker, M. Milligan, R. Zavadi, M. Schuerger and E. DeMeo, "Best Practices in Grid Integration of Variable Wind Power: Summary of Recent US Case Study Results and Mitigation Measures," presented at Europe Wind Energy Conference '07, Milan Italy (May 2007). http://www.wapa.gov/UGP/PowerMarketing/WindHydro/EWEC07paper.pdf.

A proposed aggregate island-wide penetration limit of 20% of peak demand for photovoltaic solar power is based on studies<sup>19</sup> showing that, at minimum system loading of 35%, increasingly large amounts (> 50%) of photovoltaic electricity are unusable as PV penetration exceeds 20% of peak demand.

## **HECO/Blue Planet-IR-19**

Please explain in detail how the proposed queuing procedures based upon those procedures proposed by the Midwest ISO would operate and be implemented for each island electric system. In particular, please provide any evaluations, studies or analyses of potential differences between the Midwest ISO service territory and the Hawaii utility electric systems and how those differences would be accommodated and addressed through your FIT proposal. Please discuss in detail whether the quality of power (steadiness, predictability, ability to enhance regulating resources on the grid and other such characteristic that are important to power reliability) should be a factor in setting the priority a project receives, and if not, why not.

## RESPONSE:

The Midwest ISO queuing procedure<sup>20</sup> could operate and be implemented for each island electric system without significant modification. Power quality and power reliability are factors affecting whether a project meets the utility's technical requirements for interconnection and, therefore, whether it is "ready-to-interconnect," but should not themselves be a factor in determining the priority that a project receives under the utility's queue management procedure for interconnection.

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<sup>&</sup>lt;sup>19</sup> See P. Denholm and R.Margolis, "Very Large-Scale Deployment of Grid-Connected Solar Photovoltaics in the United States: Challenges and Opportunities," National Renewal Energy Laboratory Conference Paper NREL/CP-620-39683 (April 2006) http://www.nrel.gov/pv/pdfs/39683.pdf; Paul Denholm and Robertd M. Margolis, "Evaluating the limits of solar photovoltaics (PV) in traditional electric power systems," 35 Energy Policy 4424-4433 (Elsevier, September 2007).

<sup>&</sup>lt;sup>20</sup> See Midwest Independent Transmission System Operator ("Midwest ISO"), Generator Interconnection Process Tariff (August 25, 2008) http://www.midwestmarket.org/publish/Document/ 25f0a7\_11c1022c619\_-7d600a48324a/Attachment%20X%20GIP.pdf?action=download&\_property = Attachment; Midwest ISO, Business Practices Manual: Generator Interconnection (Manual No. 15, TP-BPM-004-r2, January 6, 200p) http://www.midwestmarket.org/publish/Document/45e84c\_11cdc615aa1\_-7e010a48324a; 124 FERC ¶ 61,183, Midwest Independent Transmission System Operator, Inc., Docket No. ER08-1169-000, Order Conditionally Accepting Tariff Revisions and Addressing Queue Reform (August 25, 2008) http://elibrary.ferc.gov/idmws/doc\_info.asp?document\_id=13641108; Working group for Investment in Reliable & Economic electric Systems (WIRES), Integrating Locationally-Constrained Resources Into Transmission Systems: A Survey of U.S. Practices (October 2008) http://www.wiresgroup.com/images/WIRES Report\_LCR.pdf.

Should a utility be entitled to use the generated output of a renewable resource in its service territory toward meeting a state or county mandated RPS standard regardless of ownership of the environmental credits? If not, please discuss why not?

## RESPONSE:

No. At this time, Blue Planet's position is that the developer who took the risk in developing the renewable energy project is entitled to the rewards of the project, including the value of any environmental credits associated with the project in any market set up for the exchange of such credits. If the utility is under a state mandate to achieve certain levels of renewable energy production, then the utility should have the opportunity to develop its own renewable energy projects that, under the Proposed FIT, would be eligible for FIT rates on the same terms as renewable energy projects developed by independent developers.

**HECO/Blue Planet-IR-21** 

Ref: Statement of Position, Page 3

Please provide any evaluations, studies or analyses to support your statement that the "Straw Tariff appears unlikely to fully realize" certain economic and environmental benefits associated with FITs.

RESPONSE:

above.

Please see response to HECO/Blue Planet-IR-1 and HECO/Blue Planet-IR-10,

HECO/Blue Planet-IR-22

Ref: Statement of Position, Page 5

Please explain in detail any efforts that you are undertaking to better understand and evaluate the potential adverse consequences of an FIT similar to your FIT proposal that you presently determine to be "unknown or unclear."

RESPONSE:

This Information Request presumes Blue Planet has identified "potential adverse consequences" to the Proposed FIT, which it has not. Discovery is ongoing.

Ref: Statement of Position, Page 5

Please provide any evaluations, studies or analyses to support your statement that "the potential adverse consequences of the Straw FIT including delaying and increasing the cost of achieving the Energy Agreement's primary policy objective."

RESPONSE:

Please see response to HECO/Blue Planet-IR-1 and HECO/Blue Planet-IR-10,

above.

**HECO/Blue Planet-IR-24** 

Ref: Statement of Position, Page 5

Please provide any evaluations, studies or analyses to support your statement that a "FIT similar to the Proposed FIT is superior to the Competitive Bidding Framework to meet Hawaii's clean energy and energy independence goals due to its ability to more rapidly achieve the benefits set forth in the KEMA report...."

RESPONSE:

Please see response to HECO/Blue Planet-IR-10, above.

**HECO/Blue Planet-IR-25** 

Ref: Statement of Position, Page 6

Please provide any basis that you may have to support your proposal to have your FIT proposal supplant the Competitive Bidding Framework for renewable electricity generation that is larger than 5 MW on the island of Oahu and larger than 2.7 MW on the islands of Maui and Hawaii.

RESPONSE:

Please see response to HECO/Blue Planet-IR-10, above.

**HECO/Blue Planet-IR-26** 

Ref: Statement of Position, Page 7

Please provide any evaluations, studies or analyses to support your statement that your FIT proposal is the best design for a FIT and is more likely to fully achieve the FIT benefits set forth in the KEMA report.

RESPONSE:

Please see response to HECO/Blue Planet-IR-1 and HECO/Blue Planet-IR-10,

above.

Ref: Statement of Position, Page 7

Please provide any evaluations, studies or analyses regarding the potential costs to consumers and appropriateness of caps under your FIT proposal.

RESPONSE:

Please see response to HECO/Blue Planet-IR-1, above.

**HECO/Blue Planet-IR-28** 

Ref: Statement of Position, Page 7

Do you agree that appropriate "general annual caps, production caps, size caps and expenditure caps" may be of assistance in meeting or achieving policy objectives contained in the Energy Agreement? If not, please discuss why not.

RESPONSE:

Please see response to HECO/Blue Planet-IR-1, above.

II. RESPONSE TO THE DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT, AND TOURISM'S INFORMATION IRSS

DBEDT-IR-1-Blue Planet: Ref. Exhibit A, page 10.

Please explain how the limits of "25% and 50% of peak demand" proposed for wind and photovoltaic generating facilities, respectively, were derived. Please provide the workpapers and other information used in the determination of these limits.

RESPONSE:

Please see response to HECO/Blue Planet-IR-18, above.

DATED: Honolulu, Hawaii, March 13, 2009.

Attorney for Blue Plane Foundation

## BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF HAWAII

In the Matter of

DOCKET NO. 2008-0273

PUBLIC UTILITIES COMMISSION

Instituting a Proceeding to Investigate the Implementation Of Feed-in Tariffs.

## CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this date a copy of the foregoing document was duly served upon the following individuals by placing a copy of same in the United States Mail, postage prepaid, or by electronic mail, as follows:

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DATED: Honolulu, Hawaii,

March 13

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